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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,972	06/25/2001	Julian Norley	P-1045	9988

7590 09/24/2002

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EXAMINER

GALLAGHER, JOHN J

ART UNIT	PAPER NUMBER
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1733

11

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888972

Applicant(s)

Examiner

Group Art Unit

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 17 JUNE 2002
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-6 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-6 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
 - ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). X
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

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1. Applicants' Preliminary Amendment, filed 10 June 2002, has been received and made of record.

2. The restriction requirement imposed in the last Office action is deemed proper for the reasons set forth therein, and is therefore hereby reiterated and made FINAL.

This requirement is effectively rendered moot in view of applicants' election WITHOUT traverse AND cancellation of the Group II claims (viz. claims 7-17) in Paper No. 10 (filed 17 June 2002).

3. The disclosure is objected to because of the following informalities: The term (word(?)) "graphene" (first used on page 14 of the specification, and then only on this page (in lines 9 and 18) and on page 15 at line 12 and in line 2 of the Abstract) not understood* even though the Examiner checked four dictionaries, two of them technical (but could find no trace of this term).

Appropriate correction is required.

4. Claims 1-6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Specifically, note the presence of the term "graphene" in claims 1 (line 3) and 2 (line 1), and see the immediately preceding paragraph.

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5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6 are further rejected under 35 U.S.C. § 103(a) as being unpatentable over Missele in view of Hyman et al.

Missele discloses that it is known to employ a graphitic carbon heat sink to remove heat from and cool and electronic (e.g. flip chip) component. (Fig. 1, Abstract, column 1 lines 10-12 and 60-64, column 2 lines 14-29 and 38-41).

Hyman et al. disclose that it is known to form a heat transfer device or element (i.e. a heat dissipator or sink) via a process wherein a plurality of directionally oriented graphite (fiber) layers are adhesively joined together (using a resinous (e.g. epoxy) adhesive) to form a laminated composite, apparently employing a heat and pressure lamination process. (Abstract, column 1 lines 7-9 and 61-64, column 2 lines 1-9 and 61-67, column 3 lines 1-23 and 38-41, column 4 lines 17-20). It would have been obvious to one of ordinary skill in this art to employ the heat dissipator or sink of Hyman et al. in/in conjunction

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with the invention of Missele in place of the corresponding, analogous heat sink element employed therein, especially in view of the benefit and advantage deriving from such use and substitution viz. N.B. column 1 lines 61-64 and column 2 lines 1-3 of Hyman et al.; mere substitution of one known graphitic heat sink device or element for another (and in/from a most similar (i.e. cooling application or utility) environment) involved.

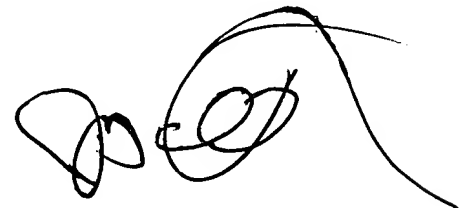
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. J. Gallagher whose telephone number is (703) 308-1971. The examiner can normally be reached on M-F from approximately 8:30 A.M. to 5 P.M. The examiner can also be reached on alternate N/A.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball, can be reached on (703) 308-2058. The fax phone number for this Group is (703) ~~305-3599~~ ⁸⁷²⁻⁹³¹⁰.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661/0662.

JTG
JJGallagher:cdc

September 5, 2002



JOHN J. GALLAGHER
PRIMARY EXAMINER
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